



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/078,723

02/19/2002

Scott P. Dubal

884.738US1

5435

21186

7590

01/25/2006

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH
1600 TCF TOWER
121 SOUTH EIGHT STREET
MINNEAPOLIS, MN 55402

EXAMINER

WANG, ALBERT C

ART UNIT

PAPER NUMBER

2115

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/078,723

Applicant(s)

DUBAL, SCOTT P.

Examiner

Albert Wang

Art Unit

2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office action is responsive to the amendment filed November 9, 2005.
2. Applicant's arguments with respect to claims 1-6 and 21-24 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claim 1 objected to because of the following informalities: "the network adapter" is inconsistent with "the network card". Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 and 21 -24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ken Yap, "Etherboot Developers Manual", v5.0.1, 4 May 2001 ("Yap"), in view of Leung et al., U.S. Patent No. 6,282,647 ("Leung").

As per claim 1, Yap teaches method comprising:

creating a compressed boot image from a boot image for a network adapter (sec. 3.2, applying compressor program to Etherboot image for network adapter); and

programming the compressed boot image into a boot ROM of the network adapter (sec. 3.2, "Etherboot allows the code to be compressed before loading into ROM").

However, Yap does not expressly teach receiving the boot image for the network adapter from a server via a network. Yap refers to the boot image as a form of BIOS extension (sec.

Art Unit: 2115

3.1), which is commonly stored in an option ROM of an adapter card. Leung teaches receiving an option ROM image from a server via a network (col. 7, lines 10-23) for the purpose of flashing the option ROM image into an option ROM of a host adapter (fig. 3, using option ROM BIOS programming utility 140; fig. 5, steps 414-420; col. 6, lines 7-18). Leung allows for “different types of host adapters” by implementing them as PCI cards that connect to a PCI bus (col. 4, line 63 – col. 5, line 4). Network adapters, otherwise referred as network interface cards or NICs, for PCI buses are well known in the art. Yap teaches detecting whether or not an option ROM of a network adapter, which may be a PCI card, contains boot code (sec. 3.1). Thus, at the time of the invention, it would have been obvious to one of ordinary skill in the art that Yap’s boot image may be received via a network in the manner of Leung’s option ROM image, as Yap’s boot image is a form of BIOS extension (Yap, sec. 3.1).

As per claim 2, Yap teaches programming a loader into a boot image (sec. 3.2).

As per claim 3, Yap teaches programming a decompressor into a boot image (sec. 3.2).

As per claim 4, Yap teaches programming a header into a boot image (sec. 3.2).

As per claim 5, Yap teaches identifying in the header that the boot image is compressed (sec. 3.2).

As per claim 6, Yap teaches identifying in the header a location of the loader in the boot ROM (sec. 3.2).

As per claim 21, Yap teaches an electronic device comprising:

a processor (sec. 3.1, CPU inherent in personal computer);

a network adapter comprising a boot ROM with a boot image (sec. 3.1, “When network adaptors were made for the PC, it was a natural step to put ROMs on them that could contact a server for network booting.”); and

a storage device comprising a utility program that when executed on the processor is to compress a boot image for the network adapter into a compressed boot image (sec. 3.1, RAM inherent in personal computer; sec. 3.2, compressor program),

However, while Yap teaches programming a compressed boot image into the boot ROM of the adapter (sec. 3.2), Yap does not expressly teach the utility program for doing so. Yap refers to the boot image as a form of BIOS extension (sec. 3.1), which is commonly stored in an option ROM of an adapter card. Leung teaches a storage device holding utility programs (col. 5, lines 30-39, RAM 120) and a utility program for flashing an option image into an option ROM of an adapter (fig. 3, option ROM BIOS programming utility 140; fig. 5, steps 414-420; col. 6, lines 7-18).). Leung allows for “different types of host adapters” by implementing them as PCI cards that connect to a PCI bus (col. 4, line 63 – col. 5, line 4). Network adapters, otherwise referred as network interface cards or NICs, for PCI buses are well known in the art. Yap teaches detecting whether or not an option ROM of a network adapter, which may be a PCI card, contains boot code (sec. 3.1). At the time of the invention, it would have been obvious to one of ordinary skill in the art to that Leung’s programming utility may be applied to Yap’s boot image, as Yap’s boot image is a form of BIOS extension (Yap, sec. 3.1). Furthermore, since Yap teaches both compressing and loading a boot image into the boot ROM (sec. 3.2, “Etherboot allows the code to be compressed before loading into ROM”), and since programs are modular, it

would have been obvious that the functions of Yap's compressor program and Leung's utility program may be combined into a single utility program.

As per claim 22, Yap teaches programming a loader and decompressor into a boot image (sec. 3.2).

As per claim 23, Yap teaches the boot image is further to boot an electronic device (sec. 3.1).

As per claim 24, Yap teaches a BIOS to detect the boot ROM (sec. 3.1, main BIOS).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

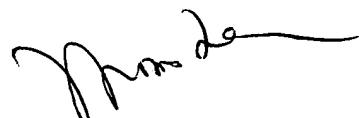
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert Wang whose telephone number is 571-272-3669. The examiner can normally be reached on M-F (9:30 - 6:00).

Art Unit: 2115

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C. Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AW



THOMAS LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100